

WHAT IS CLAIMED IS:

1. A hollow axle motor assembly, characterized by:
  - a drive shaft (52);
  - an electric motor (11) having a hollow axle (12), said hollow axle (12) having an outer diameter (14) and an inner diameter (16), said hollow axle (12) adapted to receive said drive shaft (52) within said inner diameter (16);
  - a first gear (20) operatively connected to said hollow axle (12);
  - a planetary gear drive assembly (30) in driven communication with said first gear (20); and
  - a drive shaft mount (40) in driven communication with said planetary gear drive assembly (30) and in driving communication with said drive shaft (52), wherein said hollow axle (12) rotates said first gear (20), said first gear (20) engages said planetary gear drive assembly (30), said planetary gear drive assembly (30) rotates said drive shaft mount (40), and said drive shaft mount (40) rotates said drive shaft (52) within said hollow axle (12).
2. The hollow axle motor assembly according to claim 1, wherein said hollow axle (12) has a first end portion and a second end portion, and said first gear (20) is connected to said first end portion.
3. The hollow axle motor assembly according to claim 1, further characterized by a planetary drive cover (22) connected to said electric motor (11).
4. The hollow axle motor assembly according to claim 1, wherein said drive shaft (52) is connected to at least one driven member (50).

5. The hollow axle motor assembly according to claim 1, wherein said drive shaft (52) has a diameter less than the inner diameter (16) of the hollow axle (12).
6. A track drive mechanism, characterized by:
  - a first track (112) ;
  - a second track (114) offset from said first track (112);
  - a first locking mechanism (120) adapted to engage said first track (112);
  - a second locking mechanism (122) adapted to engage said second track (114);
  - a latch release shaft (140) operatively connected to said first locking mechanism (120) and to said second locking mechanism (122);
  - a latch bar (142) operatively connected to said latch release shaft (140);
  - a hollow axle motor assembly (10) having a hollow axle (12) and a housing (22);
  - a track drive shaft (160) operatively connected to said hollow axle (12), said track drive shaft (160) having an upper portion (162) and a lower portion (164);
  - a first gear (170) adapted to engage said first track (112) and operatively connected to said upper portion (162) of said track drive shaft (160);
  - a second gear (172) adapted to engage said second track (114) and operatively connected to said lower portion (164) of said track drive shaft (160); and
  - a cam (150) operatively connected to said housing (22), said cam (150) adapted to engage said latch bar (142) such that, upon engagement of said hollow axle

motor assembly (10) and rotation of said cam (150), said latch bar (142) rotates said latch release shaft (140) thereby releasing said first locking mechanism (120) and said second locking mechanism (122).

7. The track drive mechanism according to claim 6, wherein each of said first track (112) and said second track (114) include a rack portion (116).

8. The track drive mechanism according to claim 6, wherein said first locking mechanism (120) includes a first pivotable locking member (130), said second locking mechanism (122) includes a second pivotable locking member (132), said first pivotable locking member (130) is spring-biased to engage said first track, and said said second pivotable locking member (130) is spring-biased to engage said second track.

9. The track drive mechanism according to claim 6, further characterized by a first extruded slider (124) slidably connected to said first track (112) and a second extruded slider (126) slidably connected to said second track (114).

10. The track drive mechanism according to claim 6, wherein said hollow axle motor assembly (10) includes:

an electric motor (11) having an armature (13), said armature (13) adapted to drive said hollow axle (12), said hollow axle (12) having an outer diameter (14) and an inner diameter (16), said hollow axle (12) adapted to receive said track drive shaft (160) within said inner diameter (16);

a first gear (20) operatively connected to said hollow axle (12);

a planetary gear drive assembly (30) in driven communication with said first gear (20); and

a drive shaft mount (40) in driven communication with said planetary gear drive assembly (30) and in driving communication with said track drive shaft (160), wherein said hollow axle (12) rotates said first gear (20), said first gear (20) engages said planetary gear drive assembly (30), said planetary gear drive assembly (30) rotates said drive shaft mount (40), and said drive shaft mount (40) rotates said track drive shaft (160) within said hollow axle (12);

11. A seat, characterized by

a seat bottom (210);

a seat back (212) hingedly connected to the seat bottom (210); and

a hollow axle motor assembly (10) coaxial with said hinge connection, said hollow axle motor assembly (10) including:

a shaft (220);

an electric motor (11) having a hollow axle (12), said hollow axle (12) having an outer diameter (14) and an inner diameter (16), said hollow axle (12) adapted to receive said shaft (220) within said inner diameter (16);

a housing (22) connected to said electric motor;

a first gear (20) operatively connected to said hollow axle (12);

a planetary gear drive assembly (30) in driven communication with said first gear (20); and

a drive shaft mount (40) in driven communication with said planetary gear drive assembly (30) and in driving communication with said shaft (220), wherein said hollow axle (12) rotates said first gear (20), said first gear (20) engages said planetary gear drive assembly (30), said planetary gear drive assembly

(30) rotates said drive shaft mount (40), and said drive shaft mount (40) rotates said shaft (220) within said hollow axle (12); and

wherein said shaft (220) is rigidly connected to said seat bottom (210), said housing (22) is rigidly connected to said seat back (212), whereby engagement of said electric motor (11) moves said seat back (212) relative to said seat bottom (210).